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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,416	11/20/2003	Jury Peter Locker	2003-1655A	5543

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EXAMINER

EDWARDS, ANTHONY Q

ART UNIT PAPER NUMBER

2835

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/716,416

Applicant(s)

LOCKER, JURY PETER 

Examiner

Anthony Q. Edwards

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 March 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 28-48 and 53-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-48 and 53-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 22, 2005 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 28-48 and 53-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,055,156 to von Gutfeld in view of U.S. Patent No. 5,170,195 to Akiyama et al. ("Akiyama" hereinafter). Referring to claim 28 and the corresponding method claim 47, von Gutfeld discloses a computer comprising a casing (1) having a display (3) which is bordered by a frame (2). The frame is boarded by ribs (2B), which provide convection for cooling electronic components in the computer. See Figs 3 and 4 and the corresponding specification. The von Gutfeld reference does not teach the frame having a passage arranged therein with a cooling liquid in the passage, wherein the frame itself forms the passage for the cooling fluid.

Akiyama teaches providing a display frame (12a), see Figs. 3, 4 and 13, as well as col. 4, lines 10-25, wherein the frame has a passage (18) arranged therein with a cooling liquid (40) in the passage, the frame (12a) itself forming the passage (18) for the cooling fluid (40), and wherein fluid-conducting communication is provided between the passage (18) and at least one electronic component (30/40). See Fig. 2 and the corresponding specification. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the frame of von Gutfeld with an alternate means of cooling electronic components, such as via fluid passages within a frame, as taught by Akiyama, since the device of Akiyama would provide a more efficient and enhanced means of cooling electronic components in the computer of von Gutfeld.

Referring to claim 29, Von Gutfeld in view of Akiyama disclose a computer, wherein said passage (18) extends around said frame (12a). See Figs. 3 and 4 of Akiyama.

Referring to claim 30, Von Gutfeld in view of Akiyama disclose a computer, wherein said frame is of a single-wall configuration. See Fig. 4 of Akiyama.

Referring to claim 31 and 32, Von Gutfeld in view of Akiyama disclose the computer as claimed. Although Von Gutfeld in view of Akiyama does not specifically disclose the frame being made by an extrusion process or the entire casing being made by an extrusion process, respectively, it would have been obvious to one of ordinary skill in the art at the time of the invention to make both the frame and entire casing process from an extrusion, since it has been held that, even though the claims are limited by and defined by the recited process, the determination of patentability of the product is based on the product itself, and does not depend on its method of production. If the product in the product-by-process claim is the same as or

obvious from a product of the prior art, the claim is unpatentable even though the prior art was made by the different process. *See In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

Referring to claim 33, Von Gutfeld in view of Akiyama disclose a computer, wherein said casing (12) comprises outwardly projecting cooling ribs (13a). See Figs. 3 and 4 of Akiyama and Fig. 3 of von Gutfeld.

Referring to claim 34 and 35, Von Gutfeld in view of Akiyama disclose a computer, wherein cooling ribs (19) are arranged on said casing (12) that project into the interior of said casing and wherein cooling ribs are arranged on at least part of the inside of said passage (18), respectively. See Fig. 3 of Akiyama.

Referring to claim 36, Von Gutfeld in view of Akiyama disclose a computer, wherein said fluid-conducting communication comprises connecting portions (25) which project into the interior of said casing (12) and are provided on said passage (18) in fluid communication with said passage. See Fig. 16 and col. 5, lines 57-60 of Akiyama.

Referring to claim 37, Von Gutfeld in view of Akiyama disclose a computer as claimed, except for having exactly two connecting portions. It is well known, however, that a mere duplication of the essential working parts of a device involves only routine skill in the art (see MPEP 2144.04; *In re Harza*, 274 F.2d 669, 124 USPQ 378 CCPA 1960)). It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the computer of Akiyama to include exactly two connecting portions on the casing, so that a user can have separate connecting portions for ingress and egress of the fluid.

Referring to claim 38, Von Gutfeld in view of Akiyama disclose a computer as claimed, except for specifically teaching a respective one of said two connecting portions being is

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arranged at each of a top-side and an underside of said frame. It is well known, however, in the art of liquid-cooling systems to rearrange parts where needed (see *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950)). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the device of Akiyama, such that the two connecting portions are arranged at the top-side and the underside of the frame, respectively, since this would allow for gravity assisted flow of the fluid within the system.

Referring to claim 39, Von Gutfeld in view of Akiyama disclose a computer, wherein said fluid-conducting communication extends between said passage (18) and at least one heat exchanger (20) on the interior of said casing. See Fig. 1 and col. 3, lines 21-23 of Akiyama.

Referring to claim 40, Von Gutfeld in view of Akiyama disclose a computer, wherein the fluid-conducting communication comprises a hose connection (18). See Fig. 5 of Akiyama.

Referring to claim 41 and the corresponding method claim 48, Von Gutfeld in view of Akiyama disclose a computer, wherein said computer comprises a CPU (41). See Fig. 4 of von Gutfeldfig. Likewise, since Akiyama discloses at least one heat exchanger (20) arranged in the frame, it would have been obvious to one having ordinary skill in the art at the time of the invention to further modify the computer of von Gutfeld to provide the at least one heat exchanger at, i.e., near or in contact with, the CPU, to provide optimum heat removal from the CPU.

Referring to claim 42, Von Gutfeld in view of Akiyama disclose a computer, further comprising at least one pump (60) arranged to circulate the cooling fluid in said passage. See Fig. 5 and the corresponding specification of Akiyama.

Referring to claim 43, Von Gutfeld in view of Akiyama disclose a computer, wherein the cooling fluid is a liquid. See col. 3, lines 18-20 of Akiyama.

Referring to claim 44, Von Gutfeld in view of Akiyama disclose a computer as claimed, except for utilizing water as the cooling fluid. It is notoriously old and well known in the art of liquid-cooling systems to utilize water the cooling fluid for the system. It would have been obvious to one of ordinary skill in the art at the time the invention was made cool the computer of Akiyama, as modified, with water as the cooling fluid, since water is readily available, inexpensive, and it a good thermodynamic coolant.

Referring to claim 45, Von Gutfeld in view of Akiyama disclose a computer as claimed, except for utilizing distilled water as the cooling fluid. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize distilled water as the cooling fluid, since it has been held to be within the general skill of the worker in the art to select a known material on the basis that it's more pure than another like material. The mere purity of a product or material, by itself, does not render the product unobvious. See *Ex parte Gray*, 10 USPQ2D 1922 (Bd. Pat. App. & Inter 1989).

Referring to claim 46, Von Gutfeld in view of Akiyama disclose a computer as claimed, except for the display being a touch display. Official Notice is taken that is well known in the art of computer displays to utilize touch screen displays for input of data. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a touch screen display as the input device of Akiyama, as modified, since a touch screen display is a very popular type of input device in computer systems.

Referring to claim 47, Von Gutfeld in view of Akiyama disclose a computer as claimed, as well as inherently providing a method of cooling electronic components in the computer, comprising circulating said cooling fluid in said passage of said frame (see Fig. 1 of Akiyama), and passing said cooling fluid from said passage through a fluid-conducting communication into the interior of said casing (40) so as to cool at least one electronic component (41) in said casing, see Fig. 4 of von Gutfeld.

Referring to claim 48, Von Gutfeld in view of Akiyama disclose the method as claimed, wherein the at least one electronic component that is cooled by said passing is a CPU. See Fig. 4 of von Gutfeld.

Referring to claim 53, Von Gutfeld in view of Akiyama disclose a computer (see Figs. 3 and 4 of von Gutfeld) comprising a display (3), a casing (1) inherently having a plurality of electronic components (e.g., 41) therein and a frame (2) surrounding said display; a passage (18) in the frame having a cooling fluid therein, said frame itself forming said passage for said cooling fluid; and a fluid-conducting communication disposed between said passage and at least one of said electronic components. See Figs. 1-4 and the corresponding specification of Akiyama.

Referring to claim 54, Von Gutfeld in view of Akiyama disclose a computer, wherein said display (3) has a viewing side from which said display is intended to be viewed and a non-display side, said plurality of electronic components being disposed on said non-display side of said display. See Figs. 3 and 4 of von Gutfeld.

Referring to claim 55, Von Gutfeld in view of Akiyama disclose a computer, wherein the at least one of said electronic components is a CPU.



Referring to claim 56, Von Gutfeld in view of Akiyama disclose a computer as claimed, including fluid conducting communication of at least two components. See col. 2, lines 61-65 of von Gutfeld, which teaches the casing housing at least a microprocessor and memory devices. It would have been obvious, therefore, to one having ordinary skill in the art at the time of the invention to provide fluid conducting communication of at least two components, as opposed to just one component, since increasing power demands require effective cooling of more than one heat generating component in a computer systems.

#### *Response to Arguments*

Applicant's arguments filed March 22, 2005 have been fully considered but they are not persuasive. Regarding applicant's contention that a computer is not disclosed in Akiyama, the Examiner is now utilizing von Gutfeld as the primary reference in the obviousness rejection of the claims, and von Gutfeld clearly teaches cooling of a computer having at least one electronic component.

Furthermore, regarding applicant's argument that no fluid-conducting communication is provided "between the passage and at least one component," Fig. 2 of Akiyama clearly shows fluid-conducting communication. The combination of von Gutfeld and Akiyama, therefore, provides such fluid-conducting communication between the passage and at least one component as discussed the rejection above.

Regarding applicant's argument that von Gutfeld teaches away from the use of heat-pipes, it should be noted that Akiyama does not specifically relate to heat-pipes, but instead to a

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container for a display that utilizes a coolant and a heat sink type housing. This is in effect the same kind of teaching recited in applicant's claims.

Lastly, applicant's arguments with respect to claim 39 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

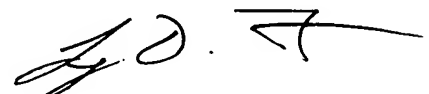
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Q. Edwards whose telephone number is 571-272-2042. The examiner can normally be reached on M-F (7:30-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2800, ext. 35. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 13, 2005

aqe



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